REMARKS

This Amendment is filed in response to the Office Action dated July 10, 2006. For the following reasons the application should be allowed and the case passed to issue. No new matter is introduced by this amendment. Support for the amendment to claims 1, 5, 9, and 15 is found in the specification at page 3, lines 3-10. The specification is amended to correct informalities.

Claims 1-15 are pending in this application. Claims 13 and 14 have been withdrawn pursuant to restriction requirement. Claims 1-12 and 15 are rejected. Claims 1, 5, 9, 13, and 15 have been amended in this response.

Restriction

Applicants respectfully request the Examiner rejoin, examine, and allow method claims 13 and 14 upon the allowance of the transmission component claims.

Claim Rejections Under 35 U.S.C. § 102

Claims 1-13[1] and 15 were rejected under 35 U.S.C. § 102(e) as being clearly anticipated by Suzuki et al. (U.S. Pat. Pub. No. 2004/0079310).

Claims 1-12 and 15 were rejected under 35 U.S.C. § 102(e) as being clearly anticipated by Ohki (U.S. Pat. Pub. No. 2003/0123769).

These rejections are traversed, and reconsideration and withdrawal thereof respectfully requested. The following is a comparison between the invention, as claimed, and the cited prior art.

An aspect of the invention, per claim 1, is a transmission component incorporated into a transmission capable of changing a rotational speed of an output shaft relative to a rotational speed of an input shaft by means of mesh of toothed wheels. The component has a nitriding

[1] Apparently the Examiner intended to recite "Claims 1-12" as claim 13 has been withdrawn pursuant to a restriction requirement.

layer formed by a carbonitriding process at a surface layer, and an austenite grain with a grain size number falling within a range exceeding 10

Another aspect of the invention, per claim 5, is a transmission component incorporated into a transmission capable of changing a rotational speed of an output shaft relative to a rotational speed of an input shaft by means of mesh of toothed wheels. The component has a nitriding layer formed by a carbonitriding process at a surface layer, and a fracture stress value of at least 2650 MPa.

Another aspect of the invention, per claim 9, is a transmission component incorporated into a transmission capable of changing a rotational speed of an output shaft relative to a rotational speed of an input shaft by means of mesh of toothed wheels. The component has a nitriding layer formed by a carbonitriding process at a surface layer, and a hydrogen content of at most 0.5 ppm.

Another aspect of the invention, per claim 15, is a tapered roller bearing having an inner ring, an outer ring, and a tapered roller. At least any one of the inner ring, the outer ring and the tapered roller has a nitriding layer formed by a carbonitriding process and an austenite grain with a grain size number falling within a range exceeding 10.

The Examiner asserted that Suzuki et al. and Ohki disclose a rolling bearing having the claimed grain size, fracture stress, and hydrogen content.

Suzuki et al. and Ohki, however, do not anticipate the claimed invention because Suzuki et al. and Ohki do not disclose a **transmission component** as required by claims 1, 5, and 9. Suzuki et al. and Ohki also do not disclose a **tapered** roller bearing, as required by claim 15.

Claims 1-8 and 15 were rejected under 35 U.S.C. § 102(b) as being clearly anticipated by Takemura et al. (U.S. Pat. No. 6,224,688). This rejection is traversed, and reconsideration and withdrawal thereof respectfully requested.

The Examiner asserted that Takemura et al. (`688) disclose a rolling bearing having a nitrided layer with a grain size exceeding 10. As regards claims 5-8, the Examiner asserted that the fracture stress was an inherent characteristic.

Claims 9-12 were rejected under 35 U.S.C. § 102(b) as being clearly anticipated by Takemura et al. (U.S. Pat. No. 6,440,232). This rejection is traversed, and reconsideration and withdrawal thereof respectfully requested.

The Examiner asserted that Takemura et al. (`232) disclose a rolling bearing having a nitrided layer and a hydrogen content of at most 0.5 ppm.

Takemura et al. (`688) and (`232) do not anticipate the claimed transmission component and tapered rolling bearing because Takemura et al. (`688) and (`232) do not disclose a **nitriding layer formed by a carbonitriding process**, as required by claims 1, 5, 9, and 15.

Claim 5 is further distinguishable over the cited references because Takemura et al. do not suggest a fracture stress value of least 2650 MPa. As shown in Table 1, carbonitrided transmission components are provided by the disclosed heat treatment process. When different heat treatment processes are used a fracture stress value of at least 2650 MPa is not obtained. Thus, contrary to the Examiner's conclusion, the claimed fracture stress properties are not inherent. As shown in Table 1, even if Takemura et al.'s steel composition were identical to that of the present invention, Takemura et al.'s steel is not carbonitrided, and fails to obtain the claimed fracture stress value of at least 2650 MPa.

The factual determination of lack of novelty under 35 U.S.C. § 102 requires the disclosure in a single reference of each element of a claimed invention. *Helifix Ltd. v. Blok-Lok Ltd.*, 208 F.3d 1339, 54 USPQ2d 1299 (Fed. Cir. 2000); *Electro Medical Systems S.A. v. Cooper Life Sciences, Inc.*, 34 F.3d 1048, 32 USPQ2d 1017 (Fed. Cir. 1994); *Hoover Group, Inc. v. Custom Metalcraft, Inc.*, 66 F.3d 399, 36 USPQ2d 1101 (Fed. Cir. 1995); *Minnesota Mining & Manufacturing Co. v. Johnson & Johnson Orthopaedics, Inc.*, 976 F.2d 1559, 24 USPQ2d 1321 (Fed. Cir. 1992); *Verdegaal Bros. v. Union Oil Co. of California*, 814 F.2d 628, 631, 2 USPQ2d 1051 (Fed. Cir. 1987). Because Suzuki et al. and Ohki do not disclose a transmission component as required by claims 1, 5, and 9; and do not disclose a tapered roller bearing, as required by claim 15; and Takemura et al. ('688) and ('232) do not disclose a **nitriding layer formed by a carbonitriding process**, as required by claims 1, 5, 9, and 15, Suzuki et al., Ohki, and Takemura et al. ('688) and ('232) do not anticipate claims 1, 5, 9, and 15.

Applicants further submit that Suzuki et al., Ohki, and Takemura et al. ('688) and ('232), whether taken alone, or in combination, do not suggest the claimed transmission component and tapered rolling bearing.

The dependent claims are allowable for at least the same reasons as the respective dependent claims from which they depend and further distinguish the claimed invention.

In view of the above amendments and remarks, Applicants submit that this application should be allowed and the case passed to issue. If there are any questions regarding this Amendment or the application in general, a telephone call to the undersigned would be appreciated to expedite the prosecution of the application.

To the extent necessary, a petition for an extension of time under 37 C.F.R. § 1.136 is hereby made. Please charge any shortage in fees due in connection with the filing of this paper,

including extension of time fees, to Deposit Account 500417 and please credit any excess fees to such deposit account.

Respectfully submitted,

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